



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/882,620	06/15/2001	Richard Jensen	SYCS-034	8475

959 7590 06/20/2003

LAHIVE & COCKFIELD
28 STATE STREET
BOSTON, MA 02109

EXAMINER

BARBER, THERESE

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 06/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/882,620	Applicant(s) JENSEN, RICHARD	
	Examiner Therese Barber	Art Unit 2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 10-15 is/are rejected.
- 7) ☒ Claim(s) 4-9 and 16-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-20 in Paper No. 6 is acknowledged.

Claim Objections

2. Claim 1 objected to because of the following informalities:

Claim 1 is objected because the applicant has failed to clearly point out and distinctly claim the subject matter which applicant regards as the invention. The applicant is reminded that the preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. In re Hirao , 535 F.2d 67, 190 USPQ 15 (CCPA 1976); Kropa v. Robie , 88 USPQ 478, 481 (CCPA 1951).

Regarding claim 1, the term "optical components" is vague and indefinite. Optical components can related to any optical devices including but not limited to wavelength division multiplexers; demultiplexers; optical amplifiers; optical switches including opto-mechanical switches, microelectromechanical switches (MEMS); and optical modulators.

Regarding claim 1, it is unclear to the examiner how the signals from different sources are combined to form a plurality of supervisory signals. Where these supervisory signals formed after all of the optical signals are combined or was a supervisory signal added to the combined

Art Unit: 2882

optical signals followed by each optical signals being separated containing its original information plus the information from the supervisory signal.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Shiragaki et al. (USPN 5,757,526).

5. Regarding claims 1-3, Shiragaki discloses an arrangement for controlling and monitoring an optical network (fig. 1) wherein a laser emits an optical signal at a specific wavelength (col. 5, lines 10-12 and lines 18-29); wherein a supervisory signal is utilized for monitoring the network because of its difference from the optical signal (col. 6, lines 18-20); and wherein the supervisory signal and the optical signal are combined in the WDM coupler (102). Although, a single laser is shown, it is well known in the art that a plurality of lasers can be utilized in an optical network. In addition, Shiragaki discloses an optical switching apparatus (104) that is connected to an information processing apparatus (107) of a single node (108) in an optical network; it is noted that Shiragaki discloses that a plurality of optical transmission paths are inputted into and outputted from the optical switching apparatus (col. 5, lines 58-64; figs. 1 or 2).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiragaki et al. as applied to claim 1 above, and further in view of Bhalla et al. (USPN 6,301,402).

8. Regarding claims 10-15, Shiragaki discloses an arrangement for controlling and monitoring an optical network (fig. 1) wherein a laser emits an optical signal at a specific wavelength (col. 5, lines 10-12 and lines 18-29); wherein a supervisory signal is utilized for monitoring the network because of its difference from the optical signal (col. 6, lines 18-20); and wherein the supervisory signal and the optical signal are combined in the WDM coupler (102). Although, a single laser is shown, it is well known in the art that a plurality of lasers can be utilized in an optical network. In addition, Shiragaki discloses an optical switching apparatus (104) that is connected to an information processing apparatus (107) of a single node (108) in an optical network; it is noted that Shiragaki discloses that a plurality of optical transmission paths are inputted into and outputted from the optical switching apparatus (col. 5, lines 58-64; figs. 1 or 2). Shiragaki discloses an optical monitoring component (103) for monitoring the optical power (col. 6, lines 40-45).

Art Unit: 2882

However, Shiragaki fails to disclose a controller for adjusting the optical mirrors in response to the supervisory signal and a detector for detecting a supervisory signal.

Bhalla et al. (USPN 6,301,402) discloses a system for monitoring and controlling and optical switch (fig. 1). Bhalla discloses wherein an optical switch (11) directs modulated light to a one of the different input ports of wavelength division multiplexers (WDM; 12, 17, or 19), whereby each WDM can receive a plurality of input optical signals and the outputs of each WDM is coupled to a switching fabric (21; col. 2, lines 49-58). Bhalla discloses the outputs of the wherein a supervisory signal is generated with respect to the transmission signals to an optical switch (col. 2, line 65 to col. 3, line 5). In addition, Bhalla discloses at the outputs of the optical switch, a 4% optical tap (23) sends a portion of the signal to a detector (25), whereby the supervisory signal is separated from the rest of the optical signals (col. 3, lines 6-14). Bhalla discloses that the supervisory signal is applied to a servo circuit (31) that acts as the system controller by causing the switching fabric (21) to change one of its properties. For example, moving one or more mirrors (col. 3, lines 36-55) in response to the signal from the controller (col. 3, lines 20-29). Bhalla discloses that this system improves the system performance without dithering (col. 4, lines 29-35).

It would have been obvious to one having ordinary skill in the art at the time the invention was made that the power-coupling system as disclosed by Shiragaki could be modified to include the switching fabric, optical tap, detector, and controller as disclosed by Bhalla. Accordingly, the resultant structure will be able to utilize the supervisory signal to determine if the changes should be made to the positioning of the mirror(s), thereby, utilizing feedback

Art Unit: 2882

information to optimize the performance of the optical switching fabric, thereby, improving the overall performance of the entire optical system.

Allowable Subject Matter

9. Claims 4-9 and 16-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten to overcome the claim objection and to include all of the limitations of the base claim and any intervening claims.

10. Regarding claims 4-9 and 16-20, the claims would be allowed if rewritten because the prior art fails to teach or to reasonably suggest a system for monitoring and controlling an optical system wherein at least two couplers (a power sharing coupler and an input coupler) are utilized to control the transmission of the supervisory and data signals through the input coupler, the output coupler, and the optical detector, in order, to utilize the supervisory signal which is at a different wavelength than the data signal, in order to control the positioning of the optical mirrors, as set forth in the claimed combination.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Therese Barber whose telephone number is (703) 306-0205. The examiner can normally be reached on Monday to Friday from 8:30 a.m. to 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on (703) 308-4858. The fax phone numbers for the

Application/Control Number: 09/882,620

Page 7

Art Unit: 2882

organization where this application or proceeding is assigned are (703) 746-4857 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4900.

tb *CB*
June 16, 2003

AK
PATENT N. KIM
SUPERVISOR OF PATENT EXAMINER
TECHNOLOGY CENTER 2000